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ABSTRACT

Nigeria's social and economic conditions at and after independence necessitated changes in educational and employment policy. At independence, in 1960, unification and economic development were necessary to galvanize the country's direction. Control and domination of the economy by foreigners deprived the country of the development of an indigenous labor force. In addition, the education system was not responsive to the country's needs. Changes in the world economy, technology, and politics required Nigerians to be competitive. Nigeria established five efforts to train indigenous workers. The Industrial Training Fund promoted the acquisition of skills. The National Policy on Education stipulated the definitions, aims, and objectives of education. The National Board of Technical Education advised the government on matters concerning education, determined labor needs, established standard skills needed and methods of student assessment, and distributed information. The Structural Adjustment Program increased agricultural production and revived Nigeria's economy. The National Policy on Science and Technology emphasized science and technology in order to transform resources into goods and services. Vocational-technical education and training need to have varying strategies. At the national level, strategies include: (1) quality programs; (2) delivery systems; (3) concept-oriented curriculum; (4) positive image; (5) teacher training; (6) national standards; (7) available funds; and (8) program enhancement. At the international level, strategies include: understanding programs; interaction through conferences, visits, and workshops; and nation building. (16 references and 2 tables are included.) (NLA)

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Individual Enhancement: The Challenge for Vocational-Technical Education and Training in Nigeria

Introduction

Nigeria is a developing country of more than 100 million people. Its area is about 357,000 square miles (about 930,000 square kilometers). Culturally, Nigeria is heterogeneous with over 250 different ethnic groups. Nigeria has a variety of resources which include fossil fuels, ferrous and non-ferrous, and industrial materials. Nigeria attained independence from the British in 1960.

This paper describes Nigeria's social and economic conditions at independence, changes that took place after independence, and the skills Nigerians needed to cope with these changes. A discussion on how vocational-technical education and training may provide an avenue for individual self-enhancement forms a section in the paper. Self-enhancement is defined as the ability to be aware of self, to use self-concept for utilistic purposes, and the development of knowledge, understanding, and skills for earning a living through self or other employment sources.

Nigeria at Independence

At independence as well as in the present, the unification and economic development of Nigeria are the two major tasks which occupy the minds of Nigerians. In a heterogeneous society like Nigeria, unity of the country is important to galvanize the country's goals and direction.

After the Union Jack was lowered in 1960, leadership was shared among the ethnic groups. At that time, the President was an Ibo, while the Prime Minister was a Hausa. Federal appointments were distributed among the different sections and national industrial plants were dispersed all over the country. To reinforce national

unity, the Second National Development Plan of Nigeria (1970) called for Nigeria to be established as a united, strong, and self-reliant nation. Furthermore, the National Policy on Education (1977) emphasized the inculcation of national consciousness and unity as one of education's aims and goals. Consequently, the education sector was given the responsibility of using language, among other things, to achieve this goal. The federal government also built "unity schools," which are secondary schools, in all of the 21 states of the federation to encourage sharing of ideas as well as social and cultural interactions among the peoples of Nigeria. Each state sends an equal number of students to these schools. At the tertiary level, a "quota system" of admission policy is used. This encourages proportional representation of all the states at the institutions, particularly the universities.

At independence, the Nigerian economy was characterized by import-orientation and dependence on expatriate manpower. For example, the construction industry was dominated by the Italians, the Germans controlled the machinery business, the Japanese provided manufactured goods and electronics, while the British had interest in all the facets of the economy. Even though Nigeria had the raw materials needed for production and the people to provide indigenous manpower, business and industry preferred outside sources. Nigeria's vast resources were "tapped by foreign commercial ventures based abroad or foreign technical partners within Nigeria itself for the benefit of their parent companies" abroad (Ola, 1988, p. 2224). This approach resulted in the failure to raise or use the technical skills of the local people beyond the artisan level. Consequently, meaningful industrialization in Nigeria could not be achieved without a "basic structure of industries that produce machine tools, equipment, heavy machinery, and chemicals" by Nigerians (Arnold, 1977, p. 82).

Control and domination of the Nigerian economy by foreigners deprived the development of indigenous manpower. Nigerian contributions to economic

development was minimal. Under these conditions Nigerians were passive observers, not involved in the decisions that impacted on the economy. Many years of colonization had produced Nigerians who react rather than act, adopt not adapt, follow, not lead and initiate, implement not originate ideas. At independence, obedience, following directions, and manual dexterity to push machine buttons were skills needed of Nigerians.

Few Years After Independence

Efforts to unite and develop Nigeria continued in earnest, but they were based on a shaky foundation—the economy was dependent on outside help for both manpower and machinery and raw materials, and education system not responsive to Nigeria's needs. The economic dependence "created a culture of helplessness in our development efforts and the mentality of placing greater confidence in external manufacturers" became endemic (National Policy on Science and Technology, 1986, p. 8).

Nigeria recently realized, that her industrialization is threatened, that the foreign-dominated private sector has been unwilling to train indigenous manpower needed for national development, that the education system is producing consumers instead of producers of goods and services, and that the population is growing. Consequently, agricultural production has declined and public institutions are inefficient. Consider the haphazard performance of the National Electric Power Authority, which generates and distributes electricity; the poor performance of the Nigeria Airways; and the inefficient services of the postal services and the telecommunication call for upgrading Nigeria's manpower.

Changes in the world economy, technology, and politics require the Nigerian to be adept, analytical, and more importantly to evaluate situations and make decisions. These new skills also contribute to self-enhancement, self-esteem, and

self-worth. Vocational-technical education experiences contribute to the development of these skills.

Efforts

To train indigenous manpower, for Nigerians to control the economy, and for the education system to contribute to national development, Nigeria established the Industrial Training Fund (ITF), the National Policy on Education (NPE), the National Board of Technical Education (NBTE), and the Structural Adjustment Program (SAP).

ITF

In 1971, the federal government created the Industrial Training Fund to promote and encourage the "acquisition of skills in industry and commerce with a view to generating a pool of indigenous trained manpower sufficient to meet the needs of the economy" (ITF, 1985, p. 9). The Fund is maintained by a cost sharing system. The private sector contributes one percent of its annual pay-roll, with a 60% reimbursement rate.

To achieve its aim, the Fund was required to build training facilities of its own; organize research and studies on training; establish and operate a vocational and apprenticeship training scheme; and seek to harmonize non-formal training efforts with the educational activities of formal training institutions (ITF, 1985). The Fund's aim correlates positively with the objectives of vocational-technical education and training, while the functions put the ITF at the forefront in providing vocational-technical education and training in Nigeria at least at the informal level. Table 1 lists some of the courses developed by the ITF for training individuals in an industry. Table 2 describes, in detail, one of the courses listed in Table 1. This

should provide an understanding of the type of programs that ITF develops for manpower training in Nigeria.

The need for manpower training continues to increase 13 years after the creation of ITF. Tudun Wada (1984) reported that the Nigerian labor force would increase from 32.24 million in 1981 to 36.08 million in 1985, and there would be an increase in gainful occupation from 30.90 million to 34.82 million during the same period. This means Nigeria, through its "local training efforts and other sources, will need . . . at least the same number of skilled labor as we currently have, otherwise the problem of manpower and skill shortage will continue to greatly hamper our development plans" (Tudun Wada, 1984). Mohammed (1988) estimated that by 1987, Nigeria needed 40,200 engineers, 321,600 technicians and 3,216,000 craftsmen. An International Labor Organization (ILO) report estimated between 80-100 million new jobs must be created by the African countries, including Nigeria, before the year 2000 (Ravisom, 1989). Where will the people with the skills to fill the new jobs come from? Who will provide the training and how will the training be conducted? These are questions that relate to vocational-technical education and training. Aminu (1986) agreed that vocational-technical education is needed for manpower development in Nigeria because "technological manpower in this country is inadequate. Not only is it inadequate, much of this manpower supply is highly theoretical, or what is commonly referred to as white collar oriented through attitude training and occupational opportunities" (p. 3).

Table 1
ITF Manpower Training and Development Programs, 1985

A. Direct Course for Industry Staff	Duration

1. Seminar on the training function	Two (2) days
2. Basic secretarial duties course	Five (5) days
3. Train-the-trainer workshop	Five (5) days
4. Industrial safety training workshop	Five (5) days
5. Instructional techniques workshop	Two (2) weeks
6. Preparation & use of training aids workshop	Two (2) weeks
7. Development of training personnel course	Four (4) weeks
8. In-plant training and productivity workshop	Three (3) weeks

B. In-house training courses for ITF staff

1. Drivers' appreciation course	Two (2) days
2. Clerical officers' course	One (1) week
3. Consultancy methodology course	Three (3) weeks
4. Financial management course for accountants	Two (2) weeks

From *ITF manpower training and development programmes, 1985,* (p. 5) by Industrial Training Fund, 1985, Jos, Nigeria: Author.

Table 2
Description of a course developed by ITF

Course title:	Train-The-Trainer Workshop
Synopsis:	The T-T-T Workshop is primarily designed to enable trainers, instructors, supervisors, and foremen to acquire the necessary skills and attitudes needed for the successful identification of the training needs of trainees/workers; to design appropriate programmes to meet these needs; and to implement the programme to produce the desired behavior in the workmen (preferably) at the shop floor. The Job Instructional Technique (JIT) is very much emphasized in this course/workshop. It exposes the "trainer" to "coaching" as a method of training, which is very much needed at the shop floor.
Designed for:	Trainers, instructors, supervisors, and foremen.
Maximum intake:	Fifteen (15)
Course objective:	At the end of the workshop, participants will be able to: Identify the training needs of their subordinate staff or trainees. Evaluate such training programmes in terms of cost-benefit. Identify and specify the behavior (or performance) which must be obtained in order to overcome the needs or deficiencies so identified. Analyze the tasks for which training is to be provided so that training can be developed to produce the desired behaviors. Prescribe, develop/select appropriate training aids, techniques and methods for the learning experiences.
Course content:	The systems approach to training Determining training needs The use of A-V aids in training Some concepts of learning Effective supervision Industrial safety Lesson plans and criteria for good lesson Instructional techniques (J.I.T.) Validation and evaluation
Methodology:	Lectures, discussions, case studies, film shows, and individual/group exercises
Duration:	Five (5) days

From *ITF manpower training and development programmes, 1985,* (p. 11) by Industrial Training Fund, 1985, Jos, Nigeria: Author.

NPE

In 1977, the Nigerian government produced the NPE, which was revised in 1981 to help achieve the national objectives of self-reliance and self-sufficiency. The NPE changed the education structure and content from the 7-5-2-3 to 6-3-3-4. The 6-3-3-4 means an individual is expected to spend six years at elementary school and three years in the junior secondary school (JSS). Another three years is spent in Senior Secondary School (SSS) for individuals who are "able and willing academically" (Hassan, 1985, p. 2). Curriculum at this level is organized around compulsory core subjects and electives plus a vocational subject, such as wood work, metal work, technical drawing, electronics or business courses like typing, bookkeeping or commerce (Mohammed, 1988). The last four years are to be spent at the tertiary level and is aimed at "giving highly specialized training for the recipients that would enable them to take up appointment in the labour market or opt for self employment" (Hassan, 1985, p. 3).

The NPE stipulated the definitions, aims and objectives of both general and vocational-technical education. Technical education, which is used synonymously with vocational education in Nigeria, is defined as the education which "leads to the acquisition of practical and applied skills as well as basic scientific knowledge" (NPE, 1977, p. 19). Some of the objectives of vocational-technical education are to: provide trained manpower; provide technical knowledge and vocational skills necessary for agricultural, industrial, commercial and economic development; give training and impart the necessary skills leading to the production of craftsmen, technicians and other skilled personnel who will be enterprising and self-reliant; and enable young men and women to have an intelligent understanding of the increasing complexity of technology (NPE, 1977).

Of particular importance to this paper is the pre-vocational and vocational courses offered at the JSS and SSS. The JSS pre-vocational courses include

Introductory Technology (IT) and business studies. The IT, for example, is a course for "all students with the hope that it would reduce the ignorance the public had about technology and the part it could play in the development of the nation industrially" (Olorunselu, 1989, p. 2). As an exploratory course, the IT should stimulate "some technical interest, aptitude and versatility" and the acquisition of "reduments of technological preparation" for occupational training on the job or as apprentices (Mohammed, 1988, p. 7).

NBTE

Another effort for manpower development in Nigeria was the establishment of the NBTE in 1977. Major functions of the Board include advising the government on all matters concerning vocational and technical education that fall outside the university; determining the skilled and middle-level manpower needs of Nigeria; establishing standard skills needed and methods of student assessment; and the collection, analysis, and publication of information in the field (NBTE Decree, 1977). The NBTE is a very powerful body, with the potential to place vocational-technical education in its rightful position within national development in Nigeria (Khaleel, 1988).

SAP

To increase agricultural production and revive Nigeria's economy, the SAP was introduced in 1986. SAP was meant to help Nigerians in self-reliance and self-sufficiency, to expand business opportunities other than in the oil sector, and to create more jobs (Federal Ministry of Information and Culture, 1989).

One consequence of SAP was the development of the "maintenance culture." As a result of the economic squeeze which made many products very expensive, people maintain rather than replace what they have. It is now more common to see

a roadside mechanic cleaning an old spark plug or letting used engine oil settle for use in another vehicle. Dents on vehicles are given no more attention than before. Used car dealership became a new business in Nigeria.

Another consequence was the government's shift of most economic and social responsibilities to the individual. Before SAP, the government provided free health and education services, and the costs of energy and transportation were subsidized. But SAP forced the lifting of subsidies and the privatization of public institutions such as banking, insurance, communication, and mining. The privatization require the participation of Nigerian entrepreneurs to buy them.

The transfer of major economic and social responsibilities to individuals who do not possess the expertise and resources needed for success is problematic. Individuals lacking in necessary skills for success may perceive themselves as inadequate, and this experience contributes to a lowered self-esteem. People need the understanding and skills required to make decisions based on the new responsibilities. This is where the challenge for vocational-technical education and training for enhancing the individual to successfully carry out the responsibilities comes.

Vocational-Technical Education in Nigeria

Fafunwa (1967), a well known educator and now Nigeria's Minister of Education said "It is clear that African reconstruction, rebirth, [and] development . . . can become a reality only when Africa is prepared to place more emphasis on technical education" (p. 16). This reflection is as valid in 1990 as it was 23 years ago. In fact, the current developmental stages of most African countries, Nigeria in particular, make the need for more emphasis on vocational-technical education and training even more imperative and urgent.

While Nigeria continues to solve its problems primarily by using expatriates, other countries are busy innovating and producing goods and services. Countries such as U.S.A., Japan, Germany, and Korea continue to dominate the international economic arena. Industries in these countries continue to experiment and spend a lot of money on research and development. National Policy on Science and Technology (NPST) shares this view and has stated that "while many countries are in the second phase of the industrial revolution in which computers, robots, micro-electronics, biotechnology, nuclear technology, etc. are common place, we are yet to grasp the fundamentals of the first phase of the industrial revolution which begun in Europe in the eighteenth century" (1986, p. 8). Most of the subject matter in vocational-technical education deals with technology. The understanding necessary for technological advancement is a skill that is provided by vocational-technical education.

The need for vocational-technical education and training in national development was further emphasized by the NPST (1986). The NPST (1986) emphasized the need for Nigeria to embrace science and technology because advances in these two areas have "assured man of comfortable living, improved his thinking process and very importantly conserved his energy for other activities" (p. 7). The level of science and technology utilization differentiates the developed and the underdeveloped countries. "The developed world has attained technological sophistry by exploiting science and technology to create wealth, save human energy and provide technical services . . ." but the underdeveloped countries have "economies which are very dependent on the industrialized world, because they have not on their own been able to use science and technology adequately to exploit their natural resources. They have abundant resources but lack adequate scientific and technological knowledge to transform them into goods and services" (NPST, 1986, p. 7). Vocational-technical education could provide the avenue needed by the

individual to acquire the skills and understanding needed for utilizing science and technology.

Challenges for Vocational-Technical Education and Training in Nigeria

The need for unity and development requires Nigerians to develop new skills. The realities of a world, where science and technology dominate development, demand that Nigerians have the skills that will help them manipulate their environment. The Nigerian is required to be active, confident, and possess leadership skills. Nigerians in the 1990s need intelligence, creativity, decision-making abilities, problem-solving and analytical skills. Integrated with these skills are the mastery of technological knowledge and understanding that will enhance construction, manufacturing, and production.

These needs challenge vocational-technical education and training to help the individual develop the skills needed as a person, a worker, or a business owner. The challenges include:

(1) The provision of the knowledge, understanding, and skills for the individual to actively participate in the economic activities of contemporary Nigeria.

(2) The provision of a variety of delivery systems, both formal and informal, for individuals who are interested in learning new skills and upgrading the skills they have.

(3) The training of individuals who have the necessary attitudes, skills, and knowledge needed by the Nigerian economy, including vocational agriculture and entrepreneurship.

(4) The establishment of a collaboration system with business and industry, ensuring that vocational programs are up-to-date and relevant to the needs of individuals and business and industry.

Solutions

To meet these challenges, vocational-technical education and training need to have varying strategies, including:

At the national level:

Program: A quality program that has clear objectives which are achievable and related to the needs of the individual and the nation. It should be versatile, dynamic, and integrated with other facets of the economic sector.

Delivery: There should be vocational education for everybody who is interested and can benefit from it. Vocational education should be found in the normal formal and informal education systems. The roadside mechanic, retailer, and shoe shiner all need an avenue to improve and enhance their skills. Training must be made available for them.

Curriculum: The vocational-technical education curriculum should be "concept oriented." The current emphasis on subjects, e.g. metalwork, carpentry, etc. makes learning fragmented and limited. But concepts such as construction, manufacturing, etc. are comprehensive, integrated, and flexible. They allow easier transfer of learning from one area to another, e.g. plastics to metals. Also, technology is integrated and permeates all aspects (social, economic, political, philosophical, moral, and ethical) of human endeavor.

Instruction: Vocational-technical education needs dynamic, intelligent, and creative instructors. Instruction in vocational education needs to reflect reality and diversity with respect to curriculum dissemination.

Image: In Nigeria, as in other parts of the world, vocational-technical education has a negative image. Vocational educators in Nigeria need to have an avenue for self-reflection, analysis, and information dissemination. Public-relation efforts in projecting a positive image of vocational-technical education is needed.

Teacher Education: An adequate number of instructors should be trained who have the expertise and interest in the field.

Standards: A set of national standards need to be created to which vocational-technical education and training can aspire.

Funds: Adequate funds should be available for the implementation of innovative programs.

Enhancement: Continuous evaluation, research, and innovation will make the programs effective.

At the international level:

The international community could help Nigeria's vocational education to provide an avenue for individual enhancement in various ways, including:

Understanding: The international community, particularly organizations like the American Vocational Association (AVA) and the International Vocational Education and Training Association (IVETA), need to understand the various programs Nigerians are implementing for manpower development.

Interaction: Through international conferences, visits, and workshops, Nigeria's problems could be better understood and appreciated. With the hope of finding solutions, Nigeria welcomes advice that is helpful for development.

Participation: Nigeria is encouraging individuals and organizations to participate in its efforts for nation building. Such participation should be genuine, with the hope of helping Nigeria develop.

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